Practice: 317 - Composting Facility

Scenario: #1 - concrete floor, outer wood wall no bins

Scenario Description:

The composting facility, with complete concrete floor and equipment lane and outer wood walls (complete on the long side and partial on the short side) is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. This scenario is applicable when geological, soil or climate conditions prohibit the use of only partial concrete surfaces (bins only). All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality Facility.

Potential Associated Practices: Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for water control (587), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).

Before Situation:

Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed of. This situation poses an environmentally threat of excessive nutrients, organics, and pathogens being transported into surface and groundwaters, in addition to the use of excessive amounts of fertilizers.

After Situation:

Manure and other agricultural by-products are being controlled, by the collection at the source, and stored properly, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan.

The typical composter is designed to handle organic material from one cleanout of a 4 house poultry operation containing 20,000 4 lbs birds in each house - approximately 100 tons of littter. The typical structure is 40' x 136' with 5' high outer walls, with no individual bins. Strip top 1' of soil and roll compact same back into sub-floor. The entire structure is constructed on a 5" concrete slab used to store and stabilize organic material from a four house complex on any farm.

Scenario Feature Measure: Square Foot Floor Area

Scenario Unit: Square Foot

Scenario Typical Size: 5,440

Scenario Cost: $7,404.65 **Scenario Cost/Unit:** $1.36

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Excavation, common earth, large equipment, 150 ft	1223	Bulk excavation of common earth including sand and gravel with dozer >100 HP with average push distance of 150 feet. Includes equipment and labor.	Cubic Yard	$3.52	225	$792.00
Materials						
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$23.38	92.5	$2,162.65
Dimension Lumber, Treated	1044	Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners	Board Foot	$0.83	3000	$2,490.00
Lumber, planks, posts and timbers, treated	1609	Treated dimension lumber with nominal thickness greater than 2". Includes lumber and fasteners. Does not include labor.	Board Foot	$1.40	1400	$1,960.00

Practice: 317 - Composting Facility

Scenario: #3 - Composter, whole concrete floor, wood or concrete bins

Scenario Description:

The composting facility, with complete concrete floor, equipment lane and under bins, is installed to address water quality concerns and disease vectors resulting from improper waste disposal by providing a dedicated facility for storage and treatment, and by creating a compost product that can be used in multiple ways including land application for enrichment of crop ground. This scenario is applicable when geological, soil or climate conditions prohibit the use of only partial concrete surfaces (bins only). All animal mortality composting shall be done using Practice Standard 316 - Animal Mortality
Facility.

Potential Associated Practices: Fence (382), Critical Area Planting (342), Nutrient Management (590), Access Road (560), Structure for water control (587), Diversion (362), Pipeline (516), Subsurface Drain (606), Heavy Use Area Protection (561), Roofs and Covers (367), Roof Runoff Structure (558), Waste Storage Facility (313), Waste Recycling (633), Waste Transfer (634), Underground Outlet (620) and Vegetative Treatment Area (635).

Before Situation:

Manure and other agricultural by-products are not being utilized or controlled in an environmentally safe manner. The wastes are either accumulating at the source, or other location, or are being transported but not properly utilized or disposed of. This situation poses an environmentally threat of excessive nutrients, organics, and pathogens being transported into surface and groundwaters, in addition to the use of excessive amounts of fertilizers.

After Situation:

Manure and other agricultural by-products are being controlled, by the collection at the source, and stored properly, at an environmentally suitable location, until such time that they are disposed of or utilized in a proper manner, typically in accordance with a nutrient management plan.
The typical composter is designed to handle organic material from a 4 house poultry operation containing 20,000 4 lbs birds in each house. The typical building is 40' x 150' with 30, 10' x 10' x 5' high bins (15 bins down each side of the structure with a 20 foot center aisle). These bins will allow for 13 to be used for stage 1 composting, 10 to be used for stage 2 composting, and 7 to be used for a stage 3 / curing phase. New material will be able to be brought into the bins upon turning from stage one to stage 2. The reduction in the number of bins for each turn is based upon the reduction of volume due to composting. Strip top 1' of soil and roll compact same back into sub-floor. The entire structure is constructed on a 5" concrete slab used to store and stabilize organic material from a four house complex on any farm.

Scenario Feature Measure: Square Foot Floor Area

Scenario Unit: Square Foot

Scenario Typical Size: 6,000

Scenario Cost: $11,628.65 **Scenario Cost/Unit:** $1.94

Cost Details (by category):

Component Name	ID	Component Description	Unit	Price ($/unit)	Quantity	Cost
Equipment/Installation						
Excavation, common earth, large equipment, 150 ft	1223	Bulk excavation of common earth including sand and gravel with dozer >100 HP with average push distance of 150 feet. Includes equipment and labor.	Cubic Yard	$3.52	225	$792.00
Materials						
Aggregate, Gravel, Graded	46	Gravel, includes materials, equipment and labor to transport and place. Includes washed and unwashed gravel.	Cubic yard	$23.38	92.5	$2,162.65
Dimension Lumber, Treated	1044	Treated dimension lumber with nominal thickness equal or less than 2". Includes lumber and fasteners	Board Foot	$0.83	6200	$5,146.00
Lumber, planks, posts and timbers, treated	1609	Treated dimension lumber with nominal thickness greater than 2". Includes lumber and fasteners. Does not include labor.	Board Foot	$1.40	2520	$3,528.00